

May 7, 2003

Mr. R. Dennis Brown, Director  
Office of Quality Assurance  
Office of Civilian Radioactive Waste Management  
U.S. Department of Energy  
PO Box 364829 MS 523  
N Las Vegas, NV 89038

SUBJECT: MEETING SUMMARY FOR THE APRIL 29, 2003, QUALITY ASSURANCE  
MEETING

Dear Mr. Brown:

Enclosed is the meeting summary of the April 29, 2003, Quality Assurance (QA) Meeting between the U.S. Department of Energy (DOE) and the U.S. Nuclear Regulatory Commission (NRC). The purpose of the meeting was to discuss items of mutual interest and those areas contributing to the resolution of QA issues.

The meeting was held at the DOE office in Las Vegas, Nevada, and via video teleconference to the NRC office in Rockville, Maryland; and the Center for Nuclear Waste Regulatory Analyses in San Antonio, Texas. Participants included representatives from NRC, DOE, Bechtel SAIC Company LLC (BSC), the State of Nevada, Clark County, and members of the public.

If you have any questions regarding this letter, please contact Thomas Matula of my staff at (301) 415-6700.

Sincerely,

**/RA/**

Janet R. Schlueter, Chief  
High-Level Waste Branch  
Division of Waste Management  
Office of Nuclear Material Safety  
and Safeguards

Enclosure: QA Meeting Summary

cc: See attached list

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Letter to D. Bronw from J. Schlueter, dated: May 7, 2003

cc:

A. Kalt, Churchill County, NV	M. Corradini, NWTRB
R. Massey, Churchill/Lander County, NV	J. Treichel, Nuclear Waste Task Force
I. Navis, Clark County, NV	K. Tilges, Shundahai Network
E. von Tiesenhausen, Clark County, NV	M. Chu, DOE/Washington, D.C.
G. McCorkell, Esmeralda County, NV	G. Runkle, DOE/Washington, D.C.
L. Fiorenzi, Eureka County, NV	C. Einberg, DOE/Washington, D.C.
A. Johnson, Eureka County, NV	S. Gomberg, DOE/Washington, D.C.
A. Remus, Inyo County, CA	W. J. Arthur, III , DOE/ORD
M. Yarbro, Lander County, NV	R. Dyer, DOE/ORD
D. Carriger, Lincoln County, NV	J. Ziegler, DOE/ORD
M. Baughman, Lincoln County, NV	A. Gil, DOE/ORD
L. Mathias, Mineral County, NV	W. Boyle, DOE/ORD
L. Bradshaw, Nye County, NV	D. Brown, DOE/OCRWM
D. Chavez, Nye County, NV	S. Mellington, DOE/ORD
D. Hammermeister, Nye County, NV	C. Hanlon, DOE/ORD
J. Larson, White Pine County, NV	T. Gunter, DOE/ORD
J. Ray, NV Congressional Delegation	S. Morris, DOE/ORD
B. J. Gerber, NV Congressional Delegation	J. Mitchell, BSC
F. Roberson, NV Congressional Delegation	M. Mason, BSC
T. Story, NV Congressional Delegation	S. Cereghino, BSC
J. Reynoldson, NV Congressional Delegation	N. Williams, BSC
L. Hunsaker, NV Congressional Delegation	M. Voegele, BSC/SAIC
S. Joya, NV Congressional Delegation	D. Beckman, BSC/B&A
K. Kirkeby, NV Congressional Delegation	W. Briggs, Ross, Dixon & Bell
R. Loux, State of NV	P. Johnson, Citizen Alert
S. Frishman, State of NV	R. Holden, NCAI
S. Lynch, State of NV	B. Helmer, Timbisha Shoshone Tribe
M. Paslov Thomas, Legislative Counsel Bureau	R. Boland, Timbisha Shoshone Tribe
J. Pegues, City of Las Vegas, NV	J. Birchim, Yomba Shoshone Tribe
M. Murphy, Nye County, NV	R. Arnold, Pahrump Paiute Tribe

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cc: (Continued)

R. Clark, EPA

R. Anderson, NEI

R. McCullum, NEI

S. Kraft, NEI

J. Kessler, EPRI

D. Duncan, USGS

R. Craig, USGS

W. Booth, Engineering Svcs, LTD

L. Lehman, T-Reg, Inc.

S. Echols, ESQ

M. Smurr, BNFL, Inc.

J. Bocoeh, Big Pine Paiute Tribe of the  
Owens Valley

R. Mike, Duckwater Shoshone Tribe

T. Kingham, GAO

D. Feehan, GAO

E. Hiruo, Platts Nuclear Publications

G. Hernandez, Las Vegas Paiute Tribe

K. Finrock, NV Congressional Delegation

L. Tomero, NV Congressional Delegation

C. Meyers, Moapa Paiute Indian Tribe

R. Wilder, Fort Independence Indian Tribe

D. Vega, Bishop Paiute Indian Tribe

J. Egan, Egan & Associates, PLLC

J. Leeds, Las Vegas Indian Center

R. M. Saulque, Benton Paiute Indian Tribe

C. Bradley, Kaibab Band of Southern Paiutes

R. Joseph, Lone Pine Paiute-Shoshone Tribe

L. Tom, Paiute Indian Tribes of Utah

E. Smith, Chemehuevi Indian Tribe

V. McQueen, Sr., Ely Shoshone Tribe

V. Guzman, Inter-Tribal Council of NV  
(Chairman, Walker River Paiute Tribe)

D. Eddy, Jr., Colorado River Indian Tribes

H. Jackson, Public Citizen

J. Wells, Western Shoshone National Council

D. Crawford, Inter-Tribal Council of NV

I. Zabarte, Western Shoshone National Council

NRC On-Site Representatives

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**SUMMARY OF  
U.S. NUCLEAR REGULATORY COMMISSION / U.S. DEPARTMENT OF ENERGY  
QUARTERLY QUALITY ASSURANCE MEETING  
April 29, 2003**

**Introduction:**

The U.S. Nuclear Regulatory Commission (NRC) and the U.S. Department of Energy (DOE) held a public Quarterly Quality Assurance (QA) Meeting regarding the Yucca Mountain Project (YMP) on April 29, 2003. The meeting was held at the DOE office in Las Vegas, Nevada, and via video teleconference to the NRC office in Rockville, Maryland; and the Center for Nuclear Waste Regulatory Analyses in San Antonio, Texas. Participants included representatives from the NRC, DOE, Bechtel SAIC Company LLC (BSC), the State of Nevada, Clark County, and members of the public. The meeting agenda and a list of attendees are in Attachments 1 and 2 to this meeting summary, respectively.

**Presentations:**

DOE and BSC personnel made a series of presentations during the course of the QA meeting as described below. A copy of the presentations is in Attachment 3 to this meeting summary.

Dennis Brown (DOE) presented an overview of the DOE Quality Assurance program. Mr. Brown discussed improvements in the QA program. Some of these improvements included: 1) recent changes in BSC senior management; 2) the independent review of Quality Assurance Requirements and Description (QARD); 3) the anticipated closing of the Corrective Action Report (CAR) regarding models; 4) increased line management involvement in the QA program; 5) the simplified corrective action process, and upcoming performance-based audits; 6) the projects final position on QA grading; and 7) ongoing efforts to improve the DOE Office of Civilian Radioactive Waste Management (OCRWM) QA trending program.

Mr. Brown discussed the transition of DOE/BSC QA program implementing procedures. Mr. Brown stated that DOE intends to retain the existing procedure structure while streamlining procedure AP-5.1Q, "Plan and Procedure Preparation, Review, and Approval." Mr. Brown also stated that DOE line management will concur on applicable BSC procedures, and that BSC or DOE QA personnel will concur on procedures that implement the DOE QARD requirements.

Mr. Brown discussed the closure of deficiency reports since October 2002 as well as the Deficiency Report (DR) and CAR late actions since January 2003, and indicated that there is an improving trend in each.

Mr. Brown presented a brief overview of DOE's QA oversight activities including the recent data management audit, the West Valley audit, and the Yucca Mountain site activities audit. Mr. Brown stated that, in the future, DOE and BSC will combine and coordinate audits to eliminate redundancy in certain areas while increasing the number of audits in other areas. NRC stated that the audit team and the NRC observers concluded that the quality of data used for the License Application (LA) is indeterminate. The NRC observers also concluded that the planning and execution of the audit could have been improved. NRC then asked if there are any lessons learned from the data verification audit that could be used to make future audits

more effective. Mr. Brown said that he was not aware of the NRC audit observers' conclusions. NRC said that this information was provided verbally by the NRC observation team leader during the data verification audit, and that the details will be provided in the NRC audit observation report which will be issued in the next two weeks. Mr. Brown asked NRC to provide more information so that DOE could take appropriate action in the upcoming software audit scheduled for mid-May 2003.

Mr. Brown then introduced the new BSC QA Manager, Mike Mason. Mr. Mason has over 25 years of management and QA experience in the design, construction, start-up, and operations of nuclear and commercial facilities.

Mr. Mason discussed several audits that BSC conducted in the second and third quarters of Fiscal Year 2003. These audits included the performance-based audits of the Unsaturated Zone Transport Test at Busted Butte, and Engineered Barrier System Analysis/Model Reports. Mr. Mason also reported on supplier audits and internal surveillances performed by BSC. Lastly, Mr. Mason described BSC's activities regarding the Performance Assessment Project, Repository Design Project, and the License Application Project. Mr. Matula inquired as to the size and makeup of the BSC QA organization. Mr. Mason stated that there are approximately 65 people overall; approximately 30 people in Quality Engineering (QE), 10 in Quality Systems, 10 in Site Quality, and 15 in Quality Verification. Mr. Matula asked the level of involvement BSC QA will have in upcoming design activities and the types of activities BSC QA will perform to assure that the design meets requirements. Mr. Mason said that BSC will provide the information to NRC at the next QA Meeting in July 2003. Larry Campbell (NRC) asked to what extent the design will be evaluated by QA. Mr. Mason said that the experience of the QE staff is sufficient to appropriately evaluate the work. Mr. Mason also stated that BSC QE skills mix will be continually assessed to make sure BSC moves effectively from science, to design, to construction.

Robert Andrews (BSC) presented the status of the Model Validation CAR BSC-01-C-001 including the status of model validation for the LA. Mr. Matula inquired as to the number of model reports being developed to support the LA. Mr. Andrews stated that there are 64, and that out of the 64 model reports, approximately two-thirds are process model reports, and one-third are abstraction reports.

Mr. Andrews provided a summary of model validation CAR actions and described performance indicators developed by BSC. Wes Patrick (Center for Nuclear Waste Regulatory Analysis) noted that the performance indicators do not appear to address effectiveness, such as problem recurrence metrics. Mr. Andrews stated that the revised model validation process is effective and includes measurement of repetitive in-process reviews that represent recurrent problems. Trends in review cycles are being evaluated. Furthermore, the Chief Science Office in-process reviews are identifying any issues. The Office of Quality Assurance (OQA) audit of models is expected in July 2003, and the projected completion of CAR actions is August 2003. Robert Latta (NRC) noted that the self-assessment performed by BSC generally validated the corrective action process. However, DOE surveillance OQA SI-03-004 identified that the BSC Technical Evaluation Report (TER) process associated with corrective actions for CAR BSC - 01-C-001 has not been effective when applied to self-identification of deficiencies in the infiltration model. Mr. Andrews stated that there are no timeliness requirements on resolution of TERs and that errors in Analysis Model Reports (AMRs) would be corrected during the next

revisions of the documents. Judy Gebhart (BSC) added that errata sheets are added to AMRs identifying the nature of the identified deficiencies. These sheets stay with the AMRs to assure incorporation into the next revision and that errors are not propagated through the system.

Mr. William Watson (BSC) provided a summary of the software CAR BSC-01-C-002 and reported that there are 648 codes qualified for use under previous software development processes, 100 additional codes under development which will be qualified under processes effective January 13, 2003. BSC expects to use about 400 to support the LA. Mr. Watson stated that legacy codes will undergo a retest beginning in July 2003 and will consist of installation and validation tests under procedure AP-SI.4Q, Independent Verification and Validation (IV&V) of Legacy Code. Mr. Latta stated that the current schedule to perform IV&V shows that BSC is 71 days behind schedule and inquired how BSC will address this scheduling problem. Nancy Williams (BSC) stated that BSC has implemented management actions to add the necessary resources to make up the schedule shortfall. Mr. Matula asked who will perform the legacy code retesting and what involvement BSC QA will have in the process. This testing is being accomplished by a dedicated team. Mr. Watson said that BSC will provide additional information to the NRC Onsite Representatives within the next 30 days.

Gail McGuire (BSC) discussed the CAR regarding preservation of electronic media (BSC(B)-02-C-129). Ms. McGuire stated that BSC awarded contracts to National Data Conversion Institute and to the University of Nevada Reno for electronic records migration. In response to Mr. Matula's questions, Ms. McGuire stated that BSC will continue to perform surveillances of the migration process, and that the contractors and BSC will perform 100 percent receipt inspection of the migrated data. Preliminary results indicate that data will be retrievable. Mr. Latta asked, given that Deficiency Reports (DRs) 081 and 082 are related to QA records how are the results of these DRs, and other DRs related to the failure to submit records, being addressed. Cindy Humphries (BSC) replied that these DR issues are not related to CAR 129. Larry Campbell (NRC) inquired about the verification dates presented. Ms. McGuire responded that the demonstration of successful migration process will be completed by July 2003 and that migration of data should be accomplished by March 2004. Ms. McGuire advised that, to date, data has been successfully migrated and none of the data have been lost.

John Mitchell (BSC) discussed recently issued Stop Work Order and the CAR BSC(O)-03-C-097 regarding procedure AP-5.1Q, "Plan and Procedure Preparation, Review, and Approval." Mr. Mitchell described the three steps taken to resolve the issues; those steps being the root cause investigation, the internal affairs review, and the employee concerns issues. Mr. Mitchell stated that the root causes include a lack of accountability for procedure compliance, inadequate supervision, and a lack of signature accountability and integrity. Contributing causes include the fact that personnel chose not to comply with procedures, and that roles and responsibilities were inadequately defined. Mr. Mitchell said that the root cause team recommendations include enforcement of procedure compliance, establishment and enforcement policies on signatures, holding management accountable for the performance of subordinates, and assurance that the corrective action program addresses behavior-based issues as well as process issues. Mr. Mitchell stated that specific actions will be taken regarding personnel accountability on compliance with procedures. NRC indicated that they will follow up on how the corrective actions related to employee behavior are implemented. In response to a question from Wes Patrick (CNWRA), Mr. Mitchell indicated that the personnel had a sense of schedule pressure but the primary reason for noncompliance was a desire to

simplify the process.

Mr. Mitchell also discussed the CAR BSC(B)-03-C-107 regarding data management, and said that BSC initiated a review of historical data issues and found that various types of data issues were recurring over the last four years. Corrective action will be taken to re-establish data credibility and to improve the methodology on developing data. Mr. Mitchell said that this matter will be discussed in detail during the Management Meeting on April 30, 2003.

Mr. Brown stated that the Management Improvement Initiative to implement a single OCRWM Corrective Action Program is on hold because DOE wants to assure that they can manage the existing process before significant changes are made to the corrective action program. Kerry Grooms (DOE) discussed those actions taken to simplify the existing corrective action procedure. The most significant change is in the area of line management accountability. Line managers will be inserted directly into the DR/CAR review and approval process. Mr. Grooms also discussed the development of corrective action program metrics (to be measured through an improved trending program) including the determination of corrective action effectiveness through external review. Mr. Matula inquired who will conduct this external review and how it will be done. Mr. Brown said that more information on the external review will be provided at the next QA meeting in July 2003.

Mr. Brown stated that the QARD, Revision 13, was revised, approved, and issued. Mr. Matula stated that the NRC's April 17, 2003, letter regarding Revision 13 to the QARD, the NRC noted that Procedure AP-3.15Q, "Managing Technical Products Inputs," and AP-SIII.2Q, "Qualification of Unqualified Data and the Documentation of Rationale for Accepted Data," should be implemented concurrently with the issuance of Revision 13. In that letter the NRC asked that DOE inform the NRC if these procedures would not be released with Revision 13 to the QARD. NRC understood that Revision 13 to the QARD was issued on April 22, 2003, and that procedure AP-3.15Q was issued on April 24, 2003. Mr. Matula asked how this procedure and associated process were controlled. Mr. Latta asked if training was performed regarding these procedures as required by the QARD. Mr. Brown said that DOE will investigate these issues and inform NRC of the results. Mr. Latta inquired as to who would perform the QA Management Assessments defined in the QARD. Mr. Brown stated that the QA Management Assessments may be performed by DOE personnel, but not by QA per the QARD requirement.

Mr. Brown also discussed Revision 14 to the QARD and indicated that the revision will be more comprehensive than Revision 13 and will address 10 CFR 63, Disposal of High-Level Radioactive Wastes in a Geologic Repository at Yucca Mountain, Nevada, and NUREG 1804, The Yucca Mountain Review Plan. Mr. Brown indicated that a Technical Exchange on Revision 14 with the NRC may be necessary, possibly in the June 2003 time frame.

Ram Murthy (DOE) stated, based on a thorough evaluation by a DOE/BSC Project Team, that DOE will not be implementing a graded QA approach. Mr. Murthy discussed the terminology, requirements, evaluation, and the conclusions of DOE's evaluation. Mr. Murthy stated that the evaluation team recommended that an OCRWM QA grading process not be implemented, and that OCRWM management agreed with the team's recommendation.

Mr. Grooms discussed DOE's deficiency trending program, and the documents that are trended. Mr. Grooms also discussed Software Defect Notices (SDNs), when SDNs are



initiated, and the trending of SDNs. Mr. Latta acknowledged the efforts that DOE OQA is taking in improving the trending of deficiencies. Based on the OR's review of the DRs for January through March 2003, it was determined that the predominance of these nonconformances were attributable to performance issues such as failure to follow procedures and failure to implement procedure requirements. Mr. Grooms stated that the enhanced trending program will specifically focus on the identification of performance issues rather than on causes of those issues. This revised process is intended to enforce accountability and organizational responsibility.

Review of past open items led to agreement that they are closed. Six new open items were identified as indicated in Attachment 4 to this Meeting Summary.

/RA/ 5/1/03 Date  
Janet R. Schlueter, Chief  
High-Level Waste Branch  
Division of Waste Management  
Office of Nuclear Material  
Safety and Safeguards  
U.S. Nuclear Regulatory Commission

/RA/ 5/1/03 Date  
R. Dennis Brown, Director  
Office of Quality Assurance  
Office of Civilian Radioactive  
Waste Management  
U.S. Department of Energy

/RA/ 5/1/03 Date  
Joseph D. Ziegler, Acting Director  
Office of License Application  
and Strategy  
Office of Repository Development  
U.S. Department of Energy

## **ATTACHMENTS**

### **NRC/DOE QUARTERLY QUALITY ASSURANCE MEETING April 29, 2003**

#### **ATTACHMENTDESCRIPTION**

- |   |                 |
|---|-----------------|
| 1 | Agenda          |
| 2 | Attendance List |
| 3 | Presentations   |
| 4 | Action Items    |